USER MANUAL

ThunderCord mode-2 Charger

Doc no.: *24012101*
Date: *8-8-24*
Revision: *1.1*

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1 Safety

Disclaimer: The information provided is intended solely as a guideline and should not be considered as professional advice or an exhaustive representation of all applicable regulations. Users are encouraged to consult with qualified professionals and adhere to specific local, national, and international standards and regulations governing the installation and safety of charging points. Any reliance on the information provided is at the user's own discretion and risk. The entity providing this information shall not be held responsible for any consequences arising from its use or interpretation.

This manual has been translated into multiple languages. The original is written in UK English. All other languages are translations of the original. This manual may be modified without notification beforehand, please refer to our official website for the latest version of this manual.

1.1 Intended use

This device is a mobile charger intended to charge electrical vehicles using power from a household power grid. The device may be used indoors and outdoors. The charging current can be adjusted to adapt to the availability of power at the charging location.

This device must be used with specifications as per this manual. Safe use can only be guaranteed when the device is used as intended by this manual.

1.2 Safety precautions

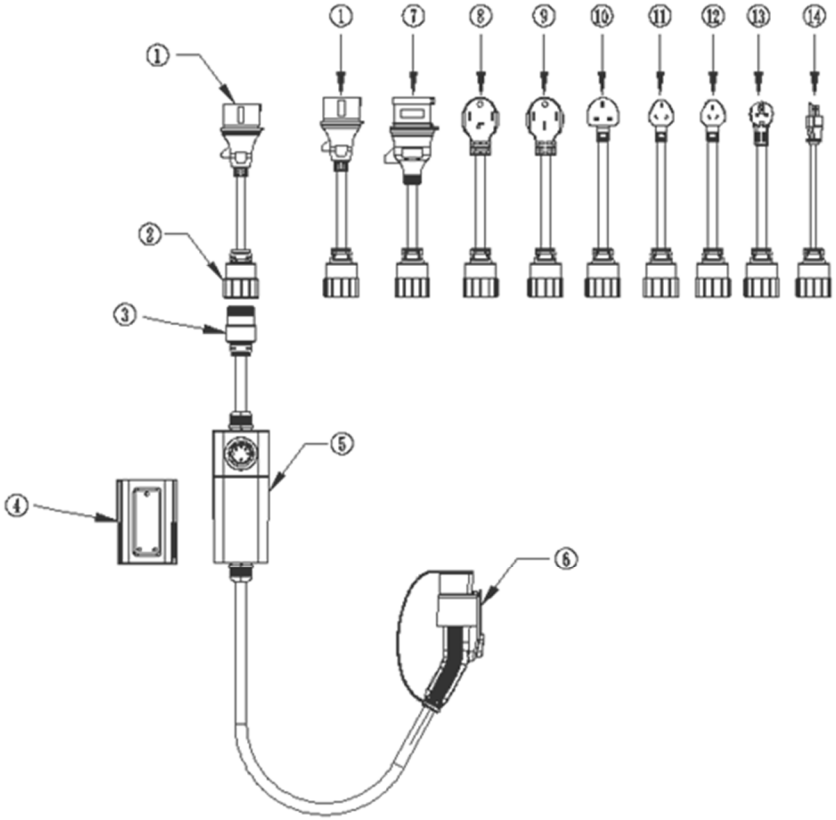
Read all the safety precautions and instructions thoroughly before using the device. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious personal injury.

- Do not put fingers into the electric vehicle connector.
- Do not use the device when the cables are frayed, broken or otherwise damaged.
- Do not use this device if the enclosure is damaged, broken or otherwise damaged.
- Do not drop or bump the device.
- Do not store or use the device in environmental conditions that exceeds the conditions as stated in this manual.
- Do not remove the charging plug while the charging process is active. This may cause irreversible damage to the charger and the car.
- Do not modify the power plug or any other component.
- Do not use extension cords, multi-outlets power strips or similar products with this device.
- Do not immerse the device in water or other liquids. The device has limited dustproof and waterproof capabilities. the equipment has been flooded, immediately cut off the power and stop using it.
- The device is not serviceable, do not open the device.
- Use of any adapter with this product is not allowed.
- Only use the device with a properly grounded power outlet in compliance with local guidelines.
- During use, strictly follow this manual, otherwise the equipment may be damaged.
- Make certain the device is used in such a way that it will not be stepped on, tripped over or otherwise subjected to damage.
- The charger and cable can get warm during normal operation.
- The device should not be operated by children.

2 Description of the product

2.1 Product appearance and dimensions

2.2 Product Overview



1) Interchangeable power plug [OPTIONAL]
2) Plugs male end
3) Plugs female end
4) Wall bracket
5) Mode-2 charger
6) Vehicle connector
7) 7-14 Interchangeable power plug [OPTIONAL]

2.3 Main features of the product

2.2.1 Equipped with LCD/LED status indication.

2.2.2 The device has the function of controlling the current regulation and scheduling the charging times.

2.2.3 With Wi-Fi/Bluetooth function, online current adjustment and charging appointment function can be realized through mobile phone APP.

2.2.4 System protection functions include:

- ✓ Overvoltage protection
- ✓ Undervoltage protection
- ✓ Overcurrent protection
- ✓ Short circuit protection
- ✓ Leakage protection
- ✓ Overtemperature protection
- ✓ Lightning protection

2.2.6 A variety of different specifications of plugs, adapt to the socket standards of any country. Intelligent identification of adapter power and output current ensure the safety of equipment power.

2.2.8 The shell is of a waterproof and dustproof design, with IP65 protection level, suitable for indoor and outdoor usage.

2.4 Technical parameters

Input Type	1 Phase		3 Phase	
Max output power	3KW	7kW	11KW	22KW
Input Voltage	AC 240V		AC 400V	
Input Voltage frequency	50Hz/60Hz			
Output Voltage	AC 240V		AC 400V	
Output Current	13A	32A	16A	32A
Output Power	The output power can be adjusted			
Efficiency	≥98			
Insulation Resistance	≥10MΩ			
Idle Power Consumption	≤7W			
RCD	Type-A + DC 6mA			
Working Temperature	-30℃～+50℃			
Storage Temperature	-40℃～+80℃			
Ambient Humidity	5% ～95%			
Altitude	No more than 2000 meters			
Status Indicator	LED Indicator / LCD [Optional]			
Display Screen	2.8 -inch LCD [Optional]			
Comm. Method	Wi-Fi 2.4GHz / Bluetooth			
Charging System	IEC 61851, Mode 2			
Charging Port	IEC 62196, Type2			
Protection class	IP65 + IK10			
Safety Protections	Overvoltage, undervoltage, grounding, lightning, leakage, flame retardant shell, overcurrent, temperature control.			
Energy Meter	≥1.0 Level			
Weight	Varies depending on cable length			

3 Installation

Always comply with any applicable laws and regulations that have not been accounted for in this manual.

Make sure you have fully read, understand the instructions in this manual before attempting to install or use the device.

3.1 Installation requirements

Choose the minimum cable diameter according to local legislations. Minimum recommendations up to 25 meters are:

Voltage	Amps [Up to]	Cable diameter [min.]
240	16	2.5 mm2
240	32	6 mm2
400	16	2.5 mm2
400	32	6 mm2

3.2 Security of the Charging Point

The device must be installed according to the standard **IEC 61851-1 ed. 3**:

• Each charging point must be protected by its own residual current device (RCD) with a maximum rating of 30mA. This device may be installed either in the charging station or in the distribution board.

• Protection against DC fault currents must be provided, which can be achieved by using a type B residual current device. However, when implementing Type B, in some situations, other type B residual current devices may also need to be installed or replaced for selectivity reasons. Type B must comply with the above standards and with: NEN-EN-IEC 62423.

• In the event of a direct current (DC) fault exceeding > 6 mA, the installation must be disconnected.

3.3 Installation environment requirements

5.2. The charger is a universal indoor and outdoor charger, which meets the IP65 protection level.

5.2.2 Please ensure that the ambient temperature range of the installation site is within the allowable range of -30℃ to +50℃.

5.2.3 The installation site must be below 2000 meters above sea level.

5.2.4 There should not be severe vibration and flammable and explosive materials near the installation site.

5.2.5 The installation site should not be in low-lying areas or areas prone to water accumulation.

5.2.6 The charger installation must be supported by the wall, if there is no wall support, it is recommended to use a special floor bracket for installation and fixation.

5.2.7 When installing the charger body, ensure that the charger body is vertical, and the installation height ranges from the type-2 plug to the horizontal ground is between: 500~1500mm.

3.4 SMART APP

The charger does not support 5GHz Wi-Fi network, you must confirm that the local Wi-Fi network is a **2.4GHz network**.

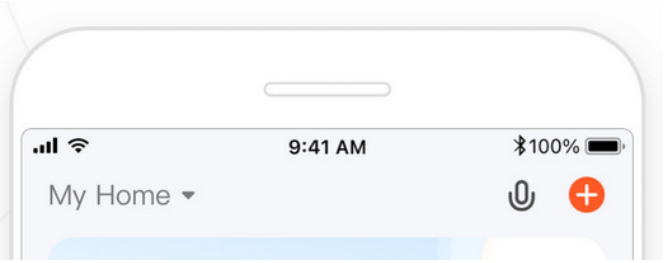
Download any TUYA-based APP from the APP store. For example, use one of the official TUYA APPs listed below:

Tuya Smart

Smart Life

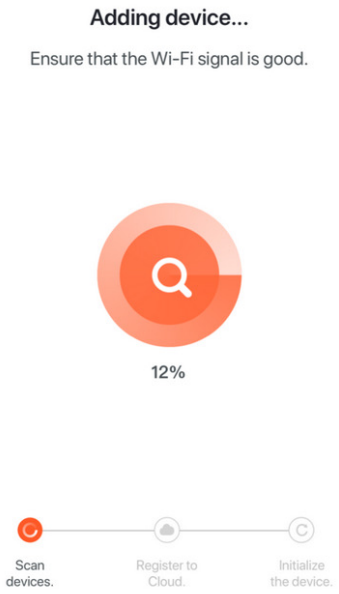
1) Create an account or use the APP as a guest.

2) In the top right-hand corner. Press the symbol to add a new device.



3) Make sure the device is connected to mains power, but not inserted into a vehicle.

4) The APP will now search for the device, after it is found connect the device to the Wi-Fi network.



5) The device is now added to the APP and can be used through the APP interface. Please keep in mind that the device will only work on the local Wi-Fi network, if the device is used on another location or network the APP won't connect to the charger. Use the buttons to control the device instead or reset the Wi-Fi connection.

6) Scan the code below in the TUYA APP to reset the Wi-Fi.

Interface overview

Reset Wi-Fi

In case the connection to the APP is lost the device can be reset and the APP connection can be made to a new account or Wi-Fi network.

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Press both buttons 10 seconds	
Press right button "TIMER"	Press left button "CURRENT"
Verify that the second row of lights (Numbers) are ON	Go to "Unlink my Phone"
Press right button "TIMER" for at least 5 seconds to confirm	
Device will reboot and reset Wi-Fi	

Adjust Power

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Press left button "CURRENT" to select current level	
Press and hold left button for at least 2 second to confirm	

Timer

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Press and hold right button for at least 2 seconds	
Short press right button to select timer	Short press right button to select timer value
	Short press left button to enable or disable timer
Press right button for at least 2 seconds to confirm	

Disable earth detection

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Press both buttons 10 seconds	
Press left button	Press left button
Ground Detection **Disabled**: 1 light on of first LED row Ground Detection **Active**: 4 lights on of first LED row	Go to “Cancel Ground Detection”
Press right button for at least 5 seconds to confirm	
Device will set Ground Detection as requested	

4 General Troubleshooting

Fault	Possible causes	Solutions
LED indicator or LCD does not light up	Power not connected	Check that the power inlet is energized and that the power switch is closed.
	circuit breaker trips	Check the wiring and socket for improper connection or damage.
	The device is damaged	Please contact the customer service center for repair
Unable to start charging	The charging cable is not fully connected	Check whether the charging connector is plugged into the bottom of the socket
	Protection circuit activated	Please refer to the RGB lamp control logic description.
The charging current is less than the rated value	The vehicle malfunctions or is almost fully charged	It is normal for the charging current to drop when the vehicle's battery is nearly full.

seq	STATE	Charging charger status	LED light	Remark
1	Normal state	Standby	Blue light is always on	Normal state
2		ready to charge state	Green light is always on	The connector is not activated.
3		Charging status	Flashing green light (on 500ms, off 500ms)	The connector is activated.
4		Charging completion status	Green light is always on	Stop charging when the car is fully charged or when the charging completion condition is reached.

seq	STATE	Charging charger status	LED light	Remark
5	Fault state	Emergency stop failure	Red light blinks 1 time every 5s	In case of failure, the red light blinks ON for 200ms and OFF for 200ms.
6		Ungrounded fault / L and N reversed	Red light blinks 2 times every 5s	
7		CP error fault	Red light blinks 3 times every 5s	
8		overcurrent fault	Red light blinks 4 times every 5s	
9		overvoltage fault	Red light blinks 5 times every 5s	
10		undervoltage fault	Red light blinks 6 times every 5s	
11		Breaker sticking fault	Red light blinks 7 times every 5s	
12		electric leakage fault	Red light blinks 8 times every 5s	
13		overtemperature fault	Red light blinks 9 times every 5s	
14		Faulty meter	Red light blinks 10 times every 5s	
15		Other faults	Red light on for 1000ms, off for 1000ms	

5 Maintenance

The device is usually maintenance free. Only periodic cleaning of the housing and vehicle connector is required by the user.

- Switch off the device and remove it from any power source.
- Clean the device with a damp cloth.
- Do not use aggressive chemicals or flammable solvents.
- Do not use coarse cleaning tools, like abrasive pads, that may damage the surface.

5.1 Service

The device is not serviceable by the user. If your charger is in need of service, please contact EVshield or your local vendor. Do not attempt to service, repair or modify the device in any way.

6 Disposal

If the device is defective beyond repair, or no longer used, please recycle the charger according to local rules, laws and guidelines regarding the disposal of electrical devices.

7 Warranty Policy

The warranty period of this product is two years, starting from date of delivery. During the warranty period, the manufacturer will repair any malfunctions that are not caused by human error (as determined by an official employee); under normal use in accordance with this instruction manual.

The equipment is covered by the relevant warranty terms above except for the following issues :

1) The purchase invoice cannot be provided, or the physical identification of the faulty device is altered or doesn't match the contents on the warranty certificate.
2) Beyond the warranty period specified.
3) Damage caused by failure to use, maintain and store in accordance with the requirements of the product user manual.
4) Damage or malfunction caused by the entry of foreign objects, moisture, water or others.
5) Damage caused by disassembly.
6) Damage caused by force majeure (such as lightning, excessive voltage, earthquake, fire, flood, and other natural disasters).
7) Failure and damage caused by other unavoidable external factors.
8) Damage caused by improper use leading to water ingress or other solutions in the equipment.
9) Damage caused by using a power supply or voltage other than the specified one.
10) Damage as a result of not using the charger in conjunction with the EVshield.

8 Declaration of Conformity

24031701.1

EVshield®

EU DECLARATION OF CONFORMITY

CE

Manufacturer: EVshield, a business unit of OMI-engineering.
This certifies that the following apparatus conforms to the requirements of the directives listed below

This declaration of conformity is issued under the sole responsibility of the manufacturer:
EVshield
Hagelkruis 49
5571PB Bergeijk
The Netherlands

Applicable products

Description		Reference
ThunderCord		8720865767741 8720865767758 8720865767765

The object of the declaration described is in conformity with the relevant Union harmonisation legislation:

Standards Applied

Title	Reference
Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.	IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-6:2015, IEC 62321-7-1:2015, IEC 62321-7-2:2017, IEC62321-8:2017
Directive 2014/30/EU of the European parliament and of the council on the harmonisation of the laws of the Member States relating to electromagnetic compatibility	EN IEC61000-6-1:2019, EN IEC 61000-6-3:2021, EN61851-21-1:2017/AC:2017-11, EN IEC 61851-21-2:2021
Directive 2014/35/EU of the European parliament and of the council on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits	EN IEC 61851-1:2019, EN 62196-1:2014, EN62196-2:2017, EN62196-3:2014, EN 50620:2017/A1:2019, EN62752:2016/A1:2020, EN61984:2009, EN60998:2004, EN60730-1:2016/A2:2022, EN50470-1:2006/A1:2018, EN50470-3:2022

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Signature:

Date: 21-6-2024
Revision: 1

RoHS 2011/65/EU